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Timber Harvests in Alaska: 1910–2006

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Abstract

This publication provides estimates of total softwood harvest by owner for Alaska for 1910–2006. This information is a mix of reported and estimated data. These data are being used to develop assumptions needed in forest planning by both public and private forest managers.

Keywords: Timber harvests, Alaska forest products, timber supply, forest products trade, forest planning.

Introduction

Timber harvest data are essential in understanding how a forest sector has evolved over time, the contributions of different land ownerships,[2] and the legacy of stands that make up the forests enjoyed by the public today. In spite of a long history of forest management in Alaska, consistent harvest estimates have been largely absent from recent publications describing U.S. timber harvest (e.g., Adams et al. 2006). Recently, this lack of data was an issue in projecting the demand for Alaska timber (Brackley et al. 2006b).

The purpose of this research note is to provide timber harvest data for Alaska for 1909–2006, with a focus on timber harvest for industrial purposes such as saw logs for manufacture of softwood lumber; pulpwood for pulp products; and roundwood used as posts, piles, and exports in log form. A brief history of forest sector activities and markets provides a context for various changes in both timber harvest levels and prices. The impacts of changes in ownership on timber harvests are also addressed. Finally, there is a brief discussion of the stumpage prices that accompany the changes in timber harvests in southeast Alaska.

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[2] In the United States, four broad ownerships are used to describe forest resource conditions. These are Forest Service, other public, forest industry, and nonindustrial private forests. See Smith et al. (2004) for definitions and usage examples.

Definitions and Methods

Most of the forest products industry has been located in southeast and south-central Alaska, although historically, there have been large harvests in some years in other regions.

Timber harvest is defined as the total volume of wood removed from a forest site from both growing stock and "non-growing stock" sources[3] for the purposes of conversion to products or direct use by consumers. We do not include estimates for harvests for fuelwood use in Alaska in this report. Most of the forest products industry has been located in southeast and south-central Alaska, although historically, there have been large harvests in some years in other regions.

There is a small lumber industry in the interior of Alaska that processes both hardwoods and softwoods. About 45 small firms (outside southeast Alaska) process limited volumes of softwood and hardwood logs. This information is derived from the Alaska Wood Products Manufacturer's Directory by Parrent (2004). Parrent also identified 25 additional firms that purchase logs and produce secondary products. It is estimated that the total production from these firms is equivalent to 5 million board feet (mmbf) of lumber annually. At this level of production, something less than 4 mmbf of logs would be required annually. Also, during 2006 and 2007, several ship loads of chips were exported from the Point Mackenzie chip loading facility opposite Anchorage.

The data are shown in the appendix. Table 1 presents quarterly harvest data from various Forest Service reports for the two Alaska national forests. Table 2 shows both the volume sold each year and the volume harvested each year since 1940. Forest Service timber is sold (usually involving a bidding process) each year using contracts that usually span multiple years. For the past 40 years, these data have been compiled in the "Cut and Sold" reports by the Regional and Washington offices. The data in table 2 are shown by fiscal year (July to June until the fall of 1976, then October to September after 1976).

Table 3 shows timber harvests for other public, state, private, and national forest. These are a mix of reported and estimated timber harvests. Estimated harvests were derived from production and trade data (see Brooks and Haynes 1990, 1997). Some of these data since 1960 have been published in *Production, Prices, Employment, and Trade* (Warren 1987, 1993, 1996, 2006: table 16). Some of the recent estimates of private (primarily Native corporation) harvests were developed as part of a requirement in the 1980 Alaska National Interest Lands Conservation Act (ANILCA 1980: PL 96-487, sec. 706(a)), as amended by the 1990

[3] Growing stock is a classification of timber inventory that includes live trees of commercial species meeting specific standards of vigor and quality. Cull trees are excluded. When associated with volume, only trees 5.0 inches diameter at breast height (d.b.h.) and larger are included.

Tongass Timber Reform Act (TTRA 1990: PL 101-626, sec. 104) that the Forest Service monitor timber supply and demand (USDA Forest Service, n.d.).

Brief History of Timber Harvest Changes in Southeast Alaska

From the time of Russian settlement, there has been some form of local timber processing in southeast Alaska to support local consumption. As much as 8 to 9 mmbf of timber was harvested in the late 1800s as mining expanded, increasing the demand for mining timbers and lumber for local construction. Concerns about conservation led to the creation of the Alexander Archipelago Forest Reserve by presidential proclamation in 1902 (Rakestraw 1981). The Tongass National Forest was created by a proclamation signed on September 7, 1907, and reported timber sales in 1909 and 1910 averaged 13 mmbf of logs per year (fig. 1). Much of this supported local consumption and a thriving wooden box industry for shipping canned salmon to world markets (Heintzleman 1954).

Annual volumes of timber harvested following World War I and prior to World War II ranged from 14 to 57 mmbf. This rose during World War II to more than 90 mmbf in southeast Alaska to support the war effort. About 45 percent of this war-year volume was shipped to Seattle for use in airplane construction. The remaining amount was sawn and used in construction in Alaska.

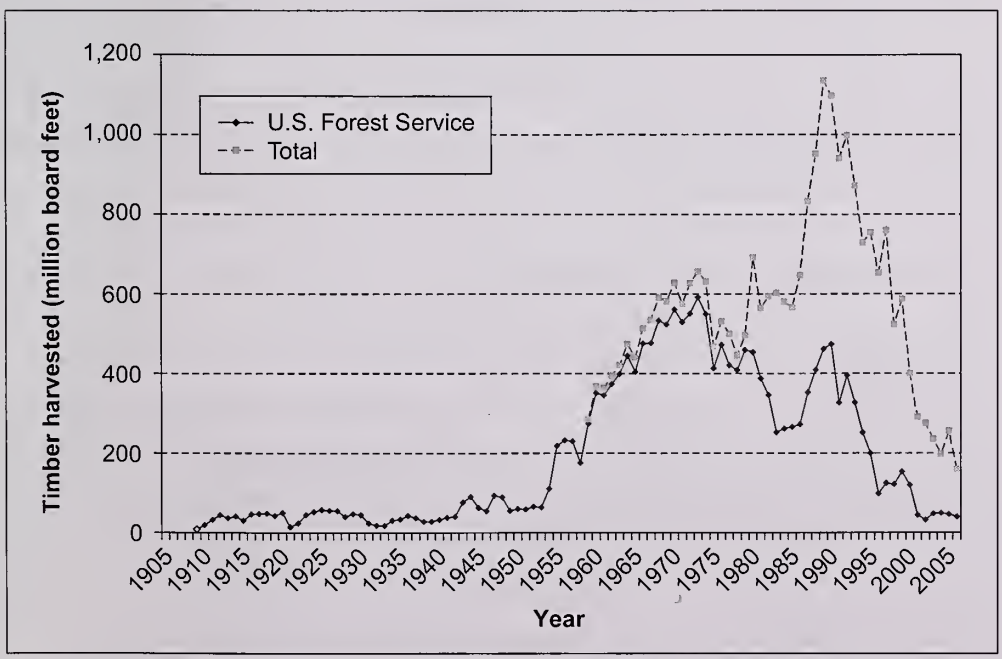

Figure 1—Harvest in Alaska. (Source: 1909-1958 compiled from U.S. Department of Agriculture, Forest Service, Alaska Region, regional summaries of timber sold and harvested; 1959–2006 and total from Ruderman 1975; USDA Forest Service, n.d.; Warren 1987, 1996, 2007)

After World War II, building material was required for residential construction as the Japanese rebuilt. This coincided with Forest Service efforts to contribute to the development of well-paying, year-round jobs in southeast Alaska. The Tongass Timber Act (TTA 1947) authorized the Forest Service to enter into long-term agreements and supply timber to support the economic development in southeast Alaska. Under TTA the allowable volume of sales was limited to 4.5 billion board feet during any 10-year period. The first long-term contract for timber was issued in 1948 (preliminary) and 1951 (final) to the American Viscose Corporation, the largest producer of rayon in the United States (Rakestraw 1981). The initial contract was designed to supply a mill at Wards Cove in Ketchikan. The second contract, with a Japanese firm (Toshitsugu Matsui), was signed in 1953 to support a mill in Sitka (see the increase in sold volumes in table 2). The timber to support these mills increased harvest on the Tongass National Forest from 70 mmbf in 1954 to 405 mmbf in 1965. Figure 1 shows the peak in Forest Service harvest in 1973 and the peak in total harvests from all lands in the late 1980s.

As pulp mills became operational, an integrated industry evolved, which included sawmills and pulp mills. The development of sawmills was encouraged by Forest Service restrictions on the export of round logs. The policies were designed to increase local manufacturing. Sawmills in southeast Alaska typically produced cants and baby squares[4] for export to Japan. Both lumber and log exports from Alaska and the other three Pacific coast states are shown in figure 2. By the early 1970s, Alaska producers accounted for a major share of west coast lumber exports.

The 1971 Alaska Native Claims Settlement Act (ANCSA 1971: PL 92-203) was passed by Congress in part to facilitate the development and construction of a pipeline to move North Slope oil to markets. The act created native land ownerships that resulted in a reduction in the area available for producing timber on the Tongass. The ANILCA (1980) designated wilderness and national monument areas in southeast Alaska, further reducing land available for timber production on national forest lands. However, the long-term contracts and harvest levels of the TTA (1947) remained in force. Native corporations sold their logs to the highest bidders, which until the early 1990s, were primarily log export markets. The emergence of log exports changed the competitiveness among Alaska forest products. Now trading companies could purchase high-quality logs for manufacturing products in Japan. The sale of logs reduced markets for cants and posts produced in southeast Alaska

[4] Cants (also referred to as heavy timbers) are a type of lumber made from a log by removing two or more sides in sawing. Often cants are remanufactured into specialty products in the importing nation. Baby squares are full-sawn 4 by 4s used in post and beam construction in Japan.

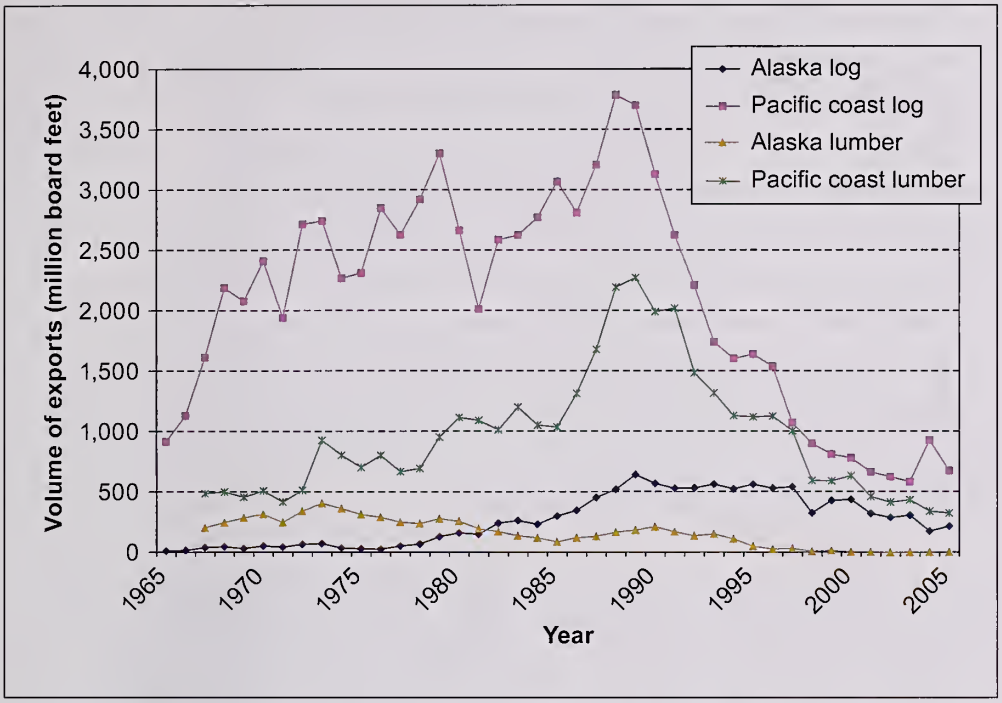

Figure 2—Volume of lumber and log exports from the west coast and Alaska. Logs are measured in log scale and lumber is measured in lumber scale. (Source: Ruderman 1976; Warren 1987, 1993, 2007)

and led to the demise of large-scale softwood lumber manufacturing in southeast Alaska. The general history of lumber shipments from southeast Alaska to domestic North American markets is presented in figure 3. In the absence of consistent historically reported annual data for shipments from southeast Alaska to the lower 48 States, this information was estimated using material flow assumptions and occasional observations of past flows (Brackley et al. 2006a). Figure 1 also shows the shift in harvest from the Forest Service to private (primarily Native corporations) timberlands, and the decline in both public and private harvests starting in the mid-1990s.

In 1990, the TTRA repealed the TTA (1947) statutory volume of 4.5 billion board feet per decade and stated that henceforth:

> …the Secretary shall, to the extent consistent with providing for the multiple use and sustained yield of all renewable forests resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual demand for timber from such forest and (2) meets the market demand for such forest for the planning cycle. (TTRA 1990: Title I, sec. 101)

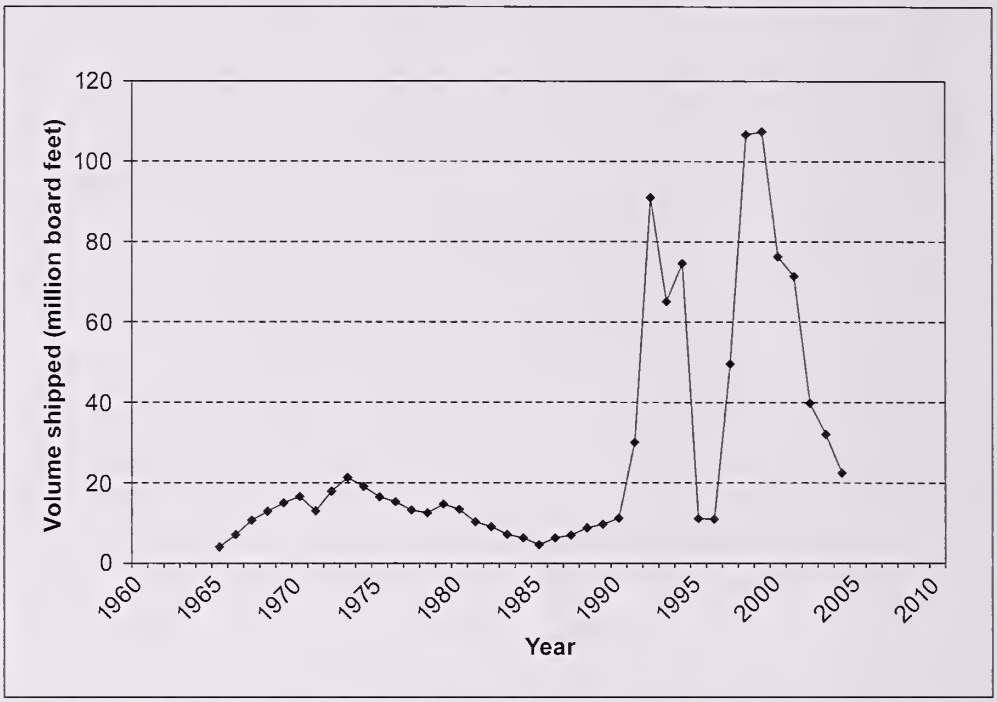

Figure 3—Volume of lumber shipped from southeast Alaska to domestic markets (primarily the 48 contiguous states). (Source: Brackley et al. 2006a)

Nie (2006) provided a detailed description of the various changes in laws and policies that governed harvest flows from the Tongass National Forest.

In the early 1990s, housing construction slowed in Japan, and increases in the price of U.S. lumber reduced U.S. lumber and log exports (see Daniels 2005 for a detailed discussion of the changes in the log export market). Both changes in the demand for dissolving pulp and new mills opening elsewhere changed the competitiveness of the two Alaska pulp mills and led to their closures. The Sitka mill closed in April 1994, and the Ketchikan mill closed in March 1997 (Morse 1997).

The Asian economic collapse that began on July 2, 1997, when Thailand floated its currency, further reduced the demand for softwood lumber in Pacific Rim markets. These market shifts, along with changes in Forest Service sales policies, introduced greater volatility in the Alaska timber market as producers responded to changing market opportunities. During the 1990s, the magnitude of the change in shipments to domestic markets for 2- or 3-year periods increased and decreased in excess of 80 to 100 mmbf, demonstrating the extent of volatility in lumber markets during periods of great transition. These volumes represent amounts that are two to three times the total annual production in any year since 2000.

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Since the early 1990s, there has been a structural change in the production and shipment patterns among the Pacific Northwest, Canada, Alaska, and Japan. These

shifts reflect the steady increase in softwood lumber consumption in the United States, the loss of export markets, increases in lumber imports from Canada, and no real change in U.S. softwood lumber production (see Haynes et al. 2007: table 25). These trends are also expected to continue in the near future.

Much of the growth in U.S. softwood lumber consumption since the early 1990s was a result of a prolonged increase in residential construction. This resulted in increased demand for dimension lumber and lumber used for millwork. Simultaneously, there were reductions in exports and lowering of demand for cants and baby squares. These shifts in the grades of lumber are reflected both in production data (e.g., Haynes and Fight 2004: table 7; Warren 2006: table 13) and for Alaska producers in southeast Alaska mill capacity studies (Brackley et al. 2006a; Kilborn et al. 2004; Parrent 2006, 2007).[5] In addition, increased U.S. consumption spurred increased imports from Canada, leading to a resurgence of softwood lumber production in the Pacific Northwest,[6] and as southeast Alaska mill capacity studies show, greater shipments of Alaska production to Seattle for domestic consumption and for export to Pacific Rim markets. At the same time, markets for high-quality material have increased in the United States where softwood lumber used in millwork applications has continued to constitute about 13 percent of all softwood lumber used in residential construction.[7] Given these various markets shifts, annual log usage by Alaska sawmills from 2002 through 2006 has ranged from 30 to about 40 mmbf (Brackley et al. 2006a; Kilborn et al. 2004; Parrent 2006, 2007) and lumber exports from Alaska have averaged 1.45 mmbf (lumber scale) per year.

Prices

Deflated (adjusted for inflation) stumpage prices from Forest Service timber sales in southeast Alaska are shown in figure 4. Like other U.S. regions, these prices illustrate both rapid and large-scale changes in market conditions. Stumpage prices are often considered a proxy for the extent and direction of changes in competitive

[5] Capacity studies of southeast Alaska sawmills have been conducted annually since 2001 to obtain information about species, volumes, products, and markets for southeast Alaska sawn products. The capacity studies indicate that the proportions of sawn material going to the domestic market from southeast Alaska manufacturers both for final consumption and for transshipment to export markets have increased since the mid-1990s.

[6] Increased lumber production in the Pacific Northwest resulted from formerly exported logs shifting to U.S. domestic markets, and from reductions in plywood production that freed up logs for lumber production.

[7] This percentage is computed from unpublished data showing lumber demand by the various end use applications considered in The 2005 RPA (Resources Planning Act) Timber Assessment Update (Haynes et al. 2007).

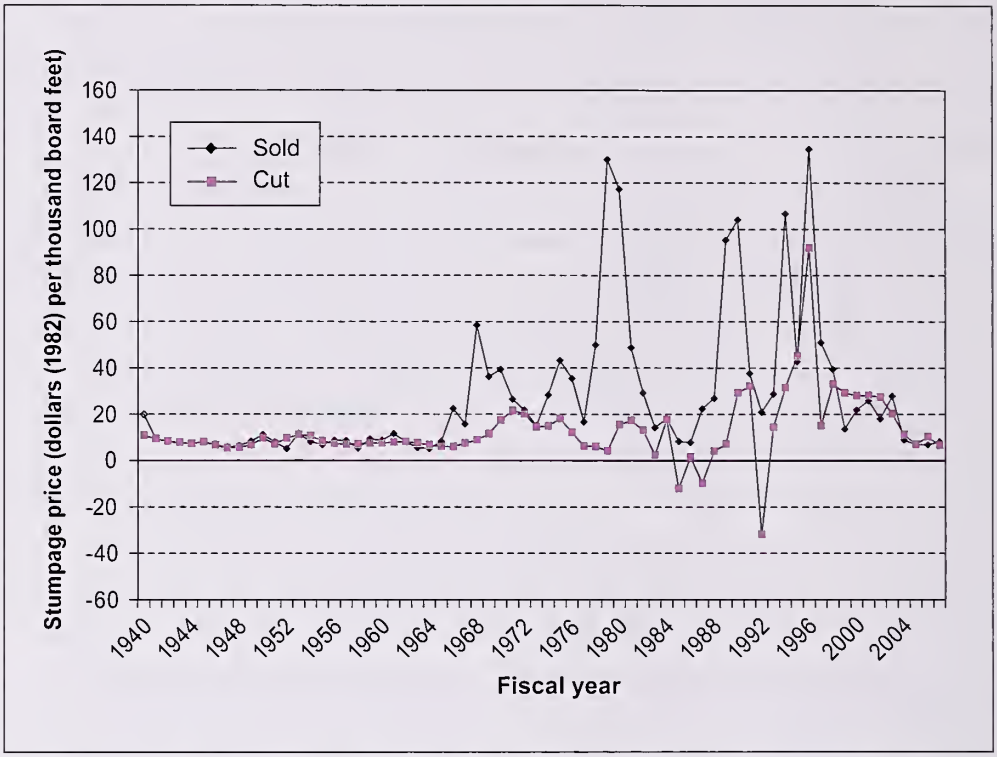

Figure 4—Alaska cut and sold price. Negative stumpage prices caused by emergency rate redetermination (Source: USDA Forest Service Washington office official records).

timber markets in other places (Haynes 2008). In addition, stumpage prices act as a signal to both producers and consumers about prospective levels of supply and demand for timber. Stumpage prices in Alaska are no different than in other regions in that they reflect both prices in competing regions as well as changes in the determinants of local timber supply and demand.

Forest Service stumpage prices are transaction prices based on stumpage sales.[8] The reported prices (like those in table 2) are volume-weighted averages of the species or species groups offered for sale. That is, they are the average of the species making up the sales offered in a particular location during a given period. The weights are the volume proportions for each species. The values and volumes are annual data reflecting prices, sales volumes, and stumpage values for Alaska, and have been reported as part of regional price reporting since 1969 (e.g., Warren 2006: tables 101 and 102).

The use of transactions data from Forest Service sales has led to two measures of stumpage prices: "sold" or "bid" prices and "cut" or "harvest" prices. The differences in these series are discussed elsewhere (e.g., Haynes 1998, 2008), but Forest

[8] See Mead (1966) and Haynes (1980) for a discussion of bidding for Forest Service timber.

Service harvest prices are used commonly as a measure of value by all landowners (e.g., Adams and Haynes 1989, Stevens and Brooks 2003).

The most widely reported stumpage prices are the prices bid for Forest Service timber sales. These prices have been published by the Pacific Northwest Research Station quarterly since 1963 for Forest Service regions and since the mid 1980s by individual national forests. They are generally cited as "sold" or "bid" prices. The sold prices represent the high bid for timber sales. These prices are also available by principal species where bidding by species is allowed.

The "cut" or "harvest" price is the price paid for timber harvested from Forest Service sales. For an individual sale, the cut price is the adjusted high-bid price[9] when logs are scaled after harvest. The cut price series is available only as an all-species average. Like the sold prices, cut prices are most commonly reported as volume-weighted averages as illustrated in table 2.

Stumpage prices are usually reported (as they are in table 2) in nominal terms and by convention are not seasonally adjusted.[10] Until the early 1980s, nominal prices were the most frequently used to assess market conditions including price forecasting. However, the inflationary periods in the U.S. economy from the late 1960s through the early 1990s resulted in the use of deflated prices (as shown in fig. 4) for assessing long-term price trends.[11]

An examination of figure 4 suggests that there are trends (expressed as real rates of change) in the deflated price series for national forest timber in Alaska over the past 67 years. In fact, there are significant (in a statistical sense) long-term trends in both the sold and cut price series. This is like other regions of the United States where there have also been persistent long-term trends in stumpage prices (Haynes 2007, 2008). From 1940 to 2007, there was an increase in Alaska deflated sold stumpage prices of 0.87 percent per year. At that rate, we can expect stumpage prices to double every 80 years. However, the same real rate of increase for cut prices was 0.35 percent per year during this 67-year period.

The differences between rates of price change for the sold and cut prices are higher for Alaska than for other regions reflecting one of the impacts of the long-term contracts and how prices were set for timber harvest. Where in other regions,

[9] Most Forest Service timber sale contracts being offered in the West include provisions for adjusting the stumpage rates actually paid by purchasers for changes in product selling values. This process is termed "stumpage rate adjustment" or "price escalation." The adoption of "stumpage rate adjustment" provisions differed leading to some distortions in the relation of sold and cut prices when comparing stumpage prices among regions.

[10] Haynes (2008) discussed the consequences of seasonal adjustment for stumpage prices.

[11] The case for this and its implications are discussed in detail in Haynes (2008).

cut prices were an average of adjusted sold prices, the price setting in the long-term contacts was based on an appraisal process rather than being the mix of adjusted sold prices.[12] This led to greater differences between the two series and kept the cut prices (prices paid for timber harvested by the two pulp companies on the long-term sales) low in comparison to the smaller volumes sold in more competitive sale arrangements. This continued until the passage of the 1990 TTRA that increased the price for timber harvested from the long-term sales, narrowing the difference between cut and sold prices.

The artificially low harvest prices had an unintended consequence in that they may have delayed the adoption of technologies to maximize the production of dimension lumber in Alaska mills relative to the rate of technological change in the softwood lumber industry elsewhere. In other competing regions producing dimension lumber, rising wood costs led producers to adopt technologies that improved the recovery of lumber from logs. That is, high wood costs acted as an incentive to producers to seek technological improvements that lower costs per thousand board feet of lumber manufactured. In Alaska, when the long-term sales came to an end and harvest prices were tied more directly to sale prices, producers found themselves at a cost disadvantage when producing dimension lumber. This problem was made worse by mills that were relatively less efficient than other regions. Given limited availability of old-growth timber, however, mills retained the ability to process large logs and produce scarce higher value products for the domestic and export markets (Brackley and Haynes 2008).

One way to estimate this cost disadvantage is to compare stumpage prices for Forest Service sales in southeast Alaska with those in the Pacific Northwest. Between 1975 and 2005, Forest Service stumpage sold prices in southeast Alaska averaged about 23 percent of those in the Pacific Northwest. If we assume that these prices typically reflect what bidders are able to pay for stumpage in anticipation of their logging and manufacturing costs and expected returns for the products that can be manufactured from the stumpage, than the lower observed stumpage prices in southeast Alaska demonstrate that costs (logging, manufacturing, and transportation) in Alaska are roughly $149 per thousand board feet higher than in the Pacific Northwest. These higher costs limit the ability of Alaska producers to compete in the lower value commodity markets. But the current production levels and shipment patterns in southeast Alaska demonstrate how the industry has transitioned to operate in current market opportunities where they focus on higher value markets.

Costs in Alaska are roughly $149 per thousand board feet higher than in the Pacific Northwest.

[12] Under the long-term sales, timber harvest was planned and released in 5-year periods. A fixed price for the timber to be harvested during the 5-year period was set using an appraisal process based on prior data.

Conclusions

Alaska has a long and varied forest products industry from local production for Russian settlements, to the basis for a year-round economy in southeast Alaska, to a vibrant but high-cost producer of high-quality softwood lumber for global markets. The events of the last several decades suggest that the forest products industry is in transition. Although producers are finding markets for high-quality lumber and logs, challenges remain with the utilization of utility logs owing to a limited fiber market. Until such markets evolve, it is difficult to see the evolution of an integrated industry such as existed from the 1950s through the early 1990s.

The harvest data illustrate the relentless nature of economic and policy changes. From an economic perspective, many of these changes have been driven by shifts in competitive costs and the array of forest products produced in southeast Alaska. From a policy perspective, timber ownerships and federal forest management policy changes have been determinants of change. In spite of these often countervailing changes, there has been an evolution in the past decade of various products where Alaska producers using unique species or grades have found successful niche markets.

Acknowledgments

The information in table 1 was originally compiled by Gene Miller, U.S. Department of Agriculture, Forest Service, Alaska Region, Timber Information Manager Coordinator. Data for private timber harvest came from various sources, including U.S. Department of Agriculture, Forest Service, Alaska Region ANILCA 706(a) Timber Supply and Demand Reports, on file with the regional economist, Ecosystem Planning, P.O. Box 21628, Juneau, AK 99802.

Metric Equivalents

When you know:	Multiply by:	To get:
Board feet, log scale	0.0045	Cubic meters, log
Board feet, lumber scale	.0024	Cubic meters, lumber

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Appendix

Table 1—Harvest on Chugach and Tongass National Forests

Date[a]		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Jul-1908	30-Jun-1909			2,315			13,236
1-Jan-1909	31-Dec-1909			2,100			6,172
1-Jul-1909	30-Jun-1910			5,143			5,869
1-Jan-1910	31-Dec-1910			6,450			12,366
1-Jul-1910	30-Jun-1911			2,289			25,859
1-Jan-1911	31-Dec-1911			1,924			30,193
1-Jul-1911	30-Jun-1912			1,819			42,829
1-Jan-1912	31-Dec-1912			1,934			42,280
1-Jul-1912	30-Jun-1913			2,754			30,781
1-Jan-1913	31-Dec-1913			3,650			32,893
1-Jul-1913	30-Jun-1914			3,006			42,055
1-Jan-1914	31-Dec-1914			1,270			39,620
1-Jul-1914	30-Jun-1915			947			36,213
1-Jan-1915	31-Dec-1915			1,547			28,681
1-Jul-1915	30-Jun-1916			3,534			31,485
1-Jan-1916	31-Dec-1916			4,307			42,283
1-Jul-1916	30-Jun-1917			3,921			42,700
1-Jan-1917	31-Dec-1917			6,338			41,002
1-Jul-1917	30-Jun-1918			6,745			41,157
1-Jan-1918	31-Dec-1918			5,536			43,114
1-Jul-1918	30-Jun-1919			6,361			38,403
1-Jan-1919	31-Dec-1919			5,079			37,374
1-Jan-1920	31-Dec-1920			4,833			45,609
1-Jan-1921	31-Dec-1921			2,665			11,651
1-Jan-1922	31-Dec-1922			3,320			20,623
1-Jan-1923	31-Dec-1923			4,382			40,463
1-Jan-1924	31-Dec-1924			3,893			48,646
1-Jan-1925	31-Dec-1925			3,801			53,723
1-Jan-1926	31-Dec-1926			4,769			50,992
1-Jan-1927	31-Dec-1927			3,294			52,000
1-Jan-1928	31-Dec-1928			6,480			33,766
1-Jan-1929	31-Dec-1929			5,447			42,015
1-Jan-1930	31-Dec-1930			6,440			38,517
1-Jan-1931	31-Dec-1931			5,736			18,234
1-Jan-1932	31-Dec-1932			3,391			14,699
1-Jan-1933	31-Dec-1933			3,075			14,664
1-Jan-1934	31-Dec-1934			2,744			28,151
1-Jan-1935	31-Dec-1935			3,226			30,454
1-Jan-1936	31-Dec-1936			2,948			39,964
1-Jan-1937	31-Dec-1937			2,045			35,316
1-Jan-1938	31-Dec-1938			2,281			25,585
1-Jan-1939	31-Dec-1939			1,360			26,492
1-Jan-1940	31-Dec-1940			2,004			30,861
1-Jan-1941	31-Dec-1941			2,185			35,787
1-Jan-1942	31-Dec-1942			2,238			38,535

Table 1—Harvest on Chugach and Tongass National Forests (continued)

Date		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Jan-1943	31-Dec-1943			3,130			73,590
1-Jan-1944	31-Dec-1944			3,860			86,840
1-Jan-1945	31-Dec-1945			4,783			58,268
1-Jan-1946	31-Dec-1946			5,798			48,592
1-Jan-1947	31-Dec-1947			10,268			83,385
1-Jan-1948	31-Dec-1948			8,278			81,010
1-Jan-1949	31-Dec-1949			5,910			49,220
1-Jan-1950	31-Dec-1950			5,434			54,435
1-Jan-1951	31-Dec-1951			5,803			52,894
1-Jul-1951	30-Jun-1952			3,935			57,957
1-Jan-1952	31-Dec-1952			2,159			63,357
1-Jul-1952	30-Jun-1953			3,819			49,536
1-Jan-1953	31-Dec-1953			4,665			59,196
1-Jul-1953	30-Jun-1954			3,499			66,785
1-Jan-1954	31-Dec-1954			1,775			109,237
1-Jul-1954	30-Sep-1954			639			30,728
1-Oct-1954	31-Dec-1954			346			58,214
1-Jan-1955	31-Mar-1955			1,051			37,138
1-Apr-1955	30-Jun-1955			1,140			53,227
1-Jul-1955	30-Sep-1955			1,288			47,067
1-Oct-1955	31-Dec-1955			1,502			76,353
1-Jan-1956	31-Mar-1956			295			47,557
1-Apr-1956	30-Jun-1956			452			44,823
1-Jul-1956	30-Sep-1956			495			81,036
1-Oct-1956	31-Dec-1956			779			56,782
1-Jan-1957	31-Mar-1957			412			59,187
1-Apr-1957	30-Jun-1957			828			56,589
1-Jul-1957	30-Sep-1957			887			38,173
1-Oct-1957	31-Dec-1957			1,820			72,435
1-Jan-1958	31-Mar-1958			1,099			43,656
1-Apr-1958	30-Jun-1958			310			41,480
1-Jul-1958	30-Sep-1958			5,176			34,869
1-Oct-1958	31-Dec-1958			1,631			47,515
1-Jan-1959	31-Mar-1959			416			52,748
1-Apr-1959	30-Jun-1959			1,061			83,156
1-Jul-1959	30-Sep-1959			878			59,405
1-Oct-1959	31-Dec-1959			5,241			71,282
1-Jan-1960	31-Mar-1960			422			67,749
1-Apr-1960	30-Jun-1960			565			116,403
1-Jul-1960	30-Sep-1960			1,920			73,531
1-Oct-1960	31-Dec-1960			708			89,812
1-Jan-1961	31-Mar-1961			612			80,278
1-Apr-1961	30-Jun-1961			3,490			103,805
1-Jul-1961	30-Sep-1961			2,340			58,733
1-Oct-1961	31-Dec-1961			675			95,391
1-Jan-1962	31-Mar-1962			1,860			84,292
1-Apr-1962	30-Jun-1962			1,486			100,781

Table 1—Harvest on Chugach and Tongass National Forests (continued)

Date		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Jul-1962	30-Sep-1962			1,802			84,350
1-Oct-1962	31-Dec-1962			2,009			96,853
1-Jan-1963	31-Mar-1963			1,620			88,869
1-Apr-1963	30-Jun-1963			983			101,055
1-Jul-1963	30-Sep-1963			1,139			96,820
1-Oct-1963	31-Dec-1963			105			108,399
1-Jan-1964	31-Mar-1964			117			97,774
1-Apr-1964	30-Jun-1964			361			112,683
1-Jul-1964	30-Sep-1964			640			112,180
1-Oct-1964	31-Dec-1964			255			121,099
1-Jan-1965	31-Mar-1965			772			92,159
1-Apr-1965	30-Jun-1965			4,428			99,173
1-Jul-1965	30-Sep-1965			497			114,072
1-Oct-1965	31-Dec-1965			1,190			92,207
1-Jan-1966	31-Mar-1966			414			116,856
1-Apr-1966	30-Jun-1966			267			116,474
1-Jul-1966	30-Sep-1966			523			110,665
1-Oct-1966	31-Dec-1966			13			130,282
1-Jan-1967	31-Mar-1967			514			97,679
1-Apr-1967	30-Jun-1967			13			111,862
1-Jul-1967	30-Sep-1967			495			129,879
1-Oct-1967	31-Dec-1967			1,456			134,916
1-Jan-1968	31-Mar-1968			226			137,256
1-Apr-1968	30-Jun-1968			707			139,272
1-Jul-1968	30-Sep-1968			952			118,310
1-Oct-1968	31-Dec-1968			1,921			134,657
1-Jan-1969	31-Mar-1969			442			116,503
1-Apr-1969	30-Jun-1969			754			149,187
1-Jul-1969	30-Sep-1969			2,084			137,333
1-Oct-1969	31-Dec-1969			717			116,320
1-Jan-1970	31-Mar-1970			206			99,955
1-Apr-1970	30-Jun-1970			93			139,391
1-Jul-1970	30-Sep-1970			534			153,823
1-Oct-1970	31-Dec-1970			61			166,912
1-Jan-1971	31-Mar-1971			1,234			135,093
1-Apr-1971	30-Jun-1971			64			128,351
1-Jul-1971	30-Sep-1971			374			130,624
1-Oct-1971	31-Dec-1971			15			133,669
1-Jan-1972	31-Mar-1972			2,252			133,893
1-Apr-1972	30-Jun-1972			16			134,230
1-Jul-1972	30-Sep-1972			688			135,542
1-Oct-1972	31-Dec-1972			66			143,834
1-Jan-1973	31-Mar-1973			1,035			142,487
1-Apr-1973	30-Jun-1973			998			168,800
1-Jul-1973	30-Sep-1973			629			132,199
1-Oct-1973	31-Dec-1973			446			145,006
1-Jan-1974	31-Mar-1974			383			146,655

Table 1—Harvest on Chugach and Tongass National Forests (continued)

Date		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Apr-1974	30-Jun-1974			0			135,699
1-Jul-1974	30-Sep-1974			1,481			125,670
1-Oct-1974	31-Dec-1974			3,744			136,002
1-Jan-1975	31-Mar-1975			1,150			106,910
1-Apr-1975	30-Jun-1975			166			93,770
1-Jul-1975	30-Sep-1975			515			103,266
1-Oct-1975	31-Dec-1975			2,852			104,425
1-Jan-1976	31-Mar-1976			0			114,489
1-Apr-1976	30-Jun-1976			1,158			122,155
1-Jul-1976	30-Sep-1976			7,658			109,602
1-Oct-1976	31-Dec-1976			586			116,529
1-Jan-1977	31-Mar-1977			2,185			128,122
1-Apr-1977	30-Jun-1977			1,779			103,664
1-Jul-1977	30-Sep-1977			4,374			108,016
1-Oct-1977	31-Dec-1977			31			107,530
1-Jan-1978	31-Mar-1978			290			109,982
1-Apr-1978	30-Jun-1978			1,503			96,265
1-Jul-1978	30-Sep-1978			6,157			100,251
1-Oct-1978	31-Dec-1978			1,923			92,202
1-Jan-1979	31-Mar-1979			224			83,355
1-Apr-1979	30-Jun-1979			2,071			122,164
1-Jul-1979	30-Sep-1979			3,995			124,446
1-Oct-1979	31-Dec-1979			25			123,228
1-Jan-1980	31-Mar-1980			104			115,270
1-Apr-1980	30-Jun-1980			108			145,625
1-Jul-1980	30-Sep-1980			1,127			96,012
1-Oct-1980	31-Dec-1980	122	105	227	82,681	12,534	95,215
1-Jan-1981	31-Mar-1981	201	87	288	67,682	11,629	79,311
1-Apr-1981	30-Jun-1981	173	156	329	93,917	12,423	106,340
1-Jul-1981	30-Sep-1981	1,197	0	1,197	94,495	11,214	105,709
1-Oct-1981	31-Dec-1981	0	0	0	81,943	12,383	94,325
1-Jan-1982	31-Mar-1982	90	3	93	60,397	9,341	69,738
1-Apr-1982	30-Jun-1982	151	86	237	87,204	9,572	96,776
1-Jul-1982	30-Sep-1982	112	2	114	97,081	12,671	109,752
1-Oct-1982	31-Dec-1982	269	53	321	59,759	8,746	68,505
1-Jan-1983	31-Mar-1983	67	98	165	35,078	4,235	39,313
1-Apr-1983	30-Jun-1983			434			77,116
1-Jul-1983	30-Sep-1983			134			65,548
1-Oct-1983	31-Dec-1983	3	15	18	57,684	11,516	69,200
1-Jan-1984	31-Mar-1984	103	23	126	57,615	9,285	66,900
1-Apr-1984	30-Jun-1984	12	134	145	38,992	5,452	44,444
1-Jul-1984	30-Sep-1984	256	0	256	71,292	9,352	80,644
1-Oct-1984	31-Dec-1984	545	0	545	51,939	5,896	57,835
1-Jan-1985	31-Mar-1985	12	27	39	-19,538	46,032	26,495
1-Apr-1985	30-Jun-1985	0	0	0	62,067	8,854	70,921
1-Jul-1985	30-Sep-1985	125	0	125	67,314	8,762	76,075
1-Oct-1985	31-Dec-1985	175	15	190	81,241	10,569	91,809

Table 1—Harvest on Chugach and Tongass National Forests (continued)

Date		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Jan-1986	31-Mar-1986	229	0	229	26,000	7,201	33,201
1-Apr-1986	30-Jun-1986	194	0	194	50,425	8,958	59,383
1-Jul-1986	30-Sep-1986	140	0	140	93,766	12,463	106,229
1-Oct-1986	31-Dec-1986	0	0	0	64,206	8,561	72,767
1-Jan-1987	31-Mar-1987	369	0	369	44,182	10,793	54,975
1-Apr-1987	30-Jun-1987	257	63	320	87,034	18,197	105,231
1-Jul-1987	30-Sep-1987	2	1	3	86,007	16,680	102,687
1-Oct-1987	31-Dec-1987	0	0	0	75,238	13,409	88,647
1-Jan-1988	31-Mar-1988	508	20	528	55,240	12,230	67,470
1-Apr-1988	30-Jun-1988	229	6	235	90,558	19,036	109,594
1-Jul-1988	30-Sep-1988	211	25	237	110,525	20,084	130,608
1-Oct-1988	31-Dec-1988	132	79	211	84,935	15,156	100,090
1-Jan-1989	31-Mar-1989	236	73	309	76,234	11,695	87,929
1-Apr-1989	30-Jun-1989	494	77	572	91,006	17,281	108,286
1-Jul-1989	30-Sep-1989	374	26	400	125,027	23,282	148,309
1-Oct-1989	31-Dec-1989	0	31	31	98,242	17,782	116,024
1-Jan-1990	31-Mar-1990	1	4	5	75,185	12,720	87,905
1-Apr-1990	30-Jun-1990	101	392	493	112,228	19,299	131,527
1-Jul-1990	30-Sep-1990	280	185	465	113,318	21,939	135,257
1-Oct-1990	31-Dec-1990	24	30	54	101,035	17,243	118,278
1-Jan-1991	31-Mar-1991	123	25	148	34,128	10,541	44,670
1-Apr-1991	30-Jun-1991	50	275	325	73,900	14,009	87,908
1-Jul-1991	30-Sep-1991	129	285	414	90,636	22,217	112,863
1-Oct-1991	31-Dec-1991	49	99	148	64,691	15,342	80,033
1-Jan-1992	31-Mar-1992	0	126	126	53,982	14,703	68,685
1-Apr-1992	30-Jun-1992	0	1,078	1,078	83,348	15,864	99,212
1-Jul-1992	30-Sep-1992	421	672	1,094	101,119	20,649	121,768
1-Oct-1992	31-Dec-1992	439	237	675	84,033	18,650	102,684
1-Jan-1993	31-Mar-1993	90	2,098	2,188	34,737	6,156	40,894
1-Apr-1993	30-Jun-1993	82	1,312	1,393	71,007	13,743	84,749
1-Jul-1993	30-Sep-1993	1,094	705	1,799	78,856	18,115	96,970
1-Oct-1993	31-Dec-1993	4,217	0	4,217	76,171	18,669	94,840
1-Jan-1994	31-Mar-1994	698	0	698	33,181	8,232	41,413
1-Apr-1994	30-Jun-1994	52	1,398	1,450	52,030	13,267	65,296
1-Jul-1994	30-Sep-1994	0	228	228	65,441	8,803	74,243
1-Oct-1994	31-Dec-1994	0	100	100	55,870	12,556	68,426
1-Jan-1995	31-Mar-1995	0	289	289	22,639	3,885	26,524
1-Apr-1995	30-Jun-1995	480	0	480	49,117	9,964	59,081
1-Jul-1995	30-Sep-1995	187	864	1,051	54,546	12,589	67,134
1-Oct-1995	31-Dec-1995	39	380	419	35,999	8,748	44,747
1-Jan-1996	31-Mar-1996	504	278	782	17,491	4,283	21,774
1-Apr-1996	30-Jun-1996	554	643	1,197	25,176	5,041	30,217
1-Jul-1996	30-Sep-1996	183	707	890	18,764	4,683	23,447
1-Oct-1996	31-Dec-1996	157	156	313	16,856	2,454	19,310
1-Jan-1997	31-Mar-1997	181	955	1,136	2,687	392	3,080
1-Apr-1997	30-Jun-1997	484	189	673	26,788	2,922	29,710
1-Jul-1997	30-Sep-1997	22	64	85	48,091	6,449	54,540

Table 1—Harvest on Chugach and Tongass National Forests (continued)

Date		Chugach National Forest			Tongass National Forest		
		Saw log	Non saw log	Total	Saw log	Non saw log	Total
				Thousand board feet			
1-Oct-1997	31-Dec-1997	308	326	634	30,883	3,895	34,777
1-Jan-1998	31-Mar-1998	210	142	352	7,822	980	8,801
1-Apr-1998	30-Jun-1998	84	57	141	26,866	2,367	29,233
1-Jul-1998	30-Sep-1998	168	138	306	41,991	4,960	46,951
1-Oct-1998	31-Dec-1998	51	188	239	31,320	4,187	35,507
1-Jan-1999	31-Mar-1999	14	18	32	1,559	443	2,002
1-Apr-1999	30-Jun-1999	-7	11	4	39,376	3,588	42,964
1-Jul-1999	30-Sep-1999	39	80	119	60,586	4,701	65,287
1-Oct-1999	31-Dec-1999	72	128	201	39,612	3,364	42,976
1-Jan-2000	31-Mar-2000	0	9	9	6,670	525	7,195
1-Apr-2000	30-Jun-2000	0	6	6	45,081	4,165	49,246
1-Jul-2000	30-Sep-2000	0	38	38	42,283	5,160	47,442
1-Oct-2000	31-Dec-2000	106	5	111	13,542	1,892	15,434
1-Jan-2001	31-Mar-2001	0	0	0	2,076	1,681	3,756
1-Apr-2001	30-Jun-2001	97	168	265	4,387	2,025	6,412
1-Jul-2001	30-Sep-2001	0	1	1	19,797	2,395	22,192
1-Oct-2001	31-Dec-2001	0	69	69	10,658	1,058	11,716
1-Jan-2002	31-Mar-2002	0	86	86	51	13	64
1-Apr-2002	30-Jun-2002	6	70	76	5,243	872	6,116
1-Jul-2002	30-Sep-2002	1	13	14	14,029	1,889	15,917
1-Oct-2002	31-Dec-2002	0	22	22	8,465	1,336	9,801
1-Jan-2003	31-Mar-2003	0	0	0	1,323	185	1,508
1-Apr-2003	30-Jun-2003	0	13	13	7,148	2,800	9,948
1-Jul-2003	30-Sep-2003	0	2	2	27,166	2,882	30,048
1-Oct-2003	31-Dec-2003	0	0	0	5,997	605	6,603
1-Jan-2004	31-Mar-2004	0	2	2	5,333	665	5,998
1-Apr-2004	30-Jun-2004	0	11	11	11,463	1,098	12,561
1-Jul-2004	30-Sep-2004	0	0	0	13,923	7,353	21,276
1-Oct-2004	31-Dec-2004	0	4	4	8,329	1,017	9,347
1-Jan-2005	31-Mar-2005	12	11	23	8,472	882	9,354
1-Apr-2005	30-Jun-2005	19	10	28	14,960	8,151	23,111
1-Jul-2005	30-Sep-2005	0	0	0	6,820	970	7,791
1-Oct-2005	31-Dec-2005	0	9	9	6,175	153	6,328
1-Jan-2006	31-Mar-2006	0	25	25	8,450	2,058	10,508
1-Apr-2006	30-Jun-2006	0	0	0	8,635	325	8,959
1-Jul-2006	30-Sep-2006	0	0	0	15,269	2,098	17,366
1-Oct-2006	31-Dec-2006	0	0	0	2,610	602	3,211
1-Jan-2007	31-Mar-2007	0	55	55	1,024	920	1,944
1-Apr-2007	30-Jun-2007	0	63	63	1,801	549	2,349
1-Jul-2007	30-Sep-2007	0	30	30	9,353	1,878	11,230
1-Oct-2007	31-Dec-2007						

[a] Dates cover periods of available data, in both calendar and fiscal years. Beginning in 1954, data was also recorded quarterly.

Source: Compiled from U.S. Department of Agriculture, Forest Service, Alaska Region, regional summaries of timber sold and harvested.

Table 2—Timber sold and harvested on national forests in the Alaska Region by fiscal year[a]

Fiscal year	Sold		Harvest	
	Thousand board feet	*Dollars/ thousand board feet*	*Thousand board feet*	*Dollars/ thousand board feet*
1940	12,558	2.73	34,004	1.50
1941	29,753	1.45	29,536	1.45
1942	50,368	1.43	39,855	1.45
1943	160,467	1.38	40,861	1.43
1944	124,542	1.38	110,977	1.35
1945	98,275	1.50	71,635	1.52
1946	52,048	1.46	50,133	1.45
1947	112,248	1.53	68,095	1.44
1948	381,098	1.85	99,275	1.64
1949	81,126	2.25	73,261	1.83
1950	62,646	2.37	56,162	2.06
1951	57,489	2.50	60,122	2.25
1952	8,476,973	1.60	61,892	2.93
1953	122,562	3.48	57,114	3.32
1954	69,416	2.46	70,283	3.20
1955	3,121,941	2.09	182,483	2.55
1956	108,269	2.73	219,337	2.29
1957	59,377	2.77	256,108	2.27
1958	5,320,220	1.77	199,893	2.32
1959	182,189	3.02	226,604	2.47
1960	356,384	2.85	321,946	2.44
1961	117,501	3.74	354,156	2.59
1962	107,543	2.66	345,558	2.66
1963	217,775	1.86	377,540	2.45
1964	249,032	1.69	417,399	2.21
1965	170,321	2.77	430,707	2.05
1966	539,734	7.57	441,974	2.09
1967	563,224	5.35	451,553	2.56
1968	810,970	20.08	544,210	3.11
1969	122,808	12.98	522,727	4.17
1970	314,208	14.62	496,100	6.50
1971	215,306	10.19	586,073	8.33
1972	57,325	8.75	535,058	8.10
1973	74,432	6.88	593,450	6.62
1974	52,680	15.26	561,017	8.07
1975	222,890	25.41	468,892	10.71
1976	7,638	21.80	448,860	7.55
76TQ	8,356	21.47	117,261	6.01
1977	861	10.97	465,254	4.19
1978	159,161	35.08	457,795	4.40
1979	109,101	102.58	430,380	3.43
1980	199,561	105.51	481,499	14.09
1981	158,733	48.06	388,616	17.14
1982	80,635	29.53	371,035	13.36
1983	81,990	14.63	251,536	2.60
1984	52,316	19.14	261,522	18.60

Table 2—Timber sold and harvested on national forests in the Alaska Region by fiscal year (continued)

Fiscal year	Sold		Harvest	
	Thousand board feet	*Dollars/ thousand board feet*	*Thousand board feet*	*Dollars/ thousand board feet*
1985	41,664	8.81	232,035	-12.24
1986	189,707	8.05	291,374	1.77
1987	169,835	23.28	336,352	-9.76
1988	70,022	29.07	397,318	4.54
1989	95,452	107.21	446,106	8.33
1990	29,603	120.88	471,706	34.20
1991	52,891	44.18	364,649	37.72
1992	83,155	24.85	372,143	-37.20
1993	136,089	32.50	331,353	16.49
1994	54,533	129.04	282,386	38.31
1995	96,221	53.97	223,085	57.02
1996	72,035	171.52	123,473	117.19
1997	161,732	65.47	108,846	19.50
1998	24,283	49.52	121,194	41.49
1999	61,909	17.59	146,154	37.35
2000	170,651	29.86	147,112	38.15
2001	49,896	35.56	48,172	38.67
2002	24,425	24.30	34,057	36.66
2003	36,524	39.11	51,342	28.53
2004	87,078	13.63	46,449	17.05
2005	65,128	11.53	49,658	11.66
2006	85,031	12.08	43,195	17.88
2007	30,972	14.61	18,883	11.96

[a] Fiscal year for 1909–1975 = July 01–June 30; fiscal year for 1976–2007 = Oct 01–Sept 30.
Source: Forest Service Washington office official records.

Table 3—Alaska timber harvest for private and public lands (calendar year)

Year	State[a]	Private[b]	Bureau of Indian Affairs[c]	Bureau of Land Management	National forest	Total
			Thousand board feet			
1959	0		0	11,165	274,187	285,352
1960	210		0	15,877	351,109	367,196
1961	1,987		0	16,025	345,323	363,335
1962	6,872		0	13,985	373,432	394,289
1963	10,633		0	11,155	398,990	420,778
1964	18,144		0	11,190	445,109	474,443
1965	24,161		2,990	8,308	404,498	439,957
1966	31,220		1,650	5,349	475,494	513,713
1967	45,816		9,067	3,159	476,816	534,858
1968	47,974		8,192	1,103	533,303	590,572
1969	49,018		8,684	359	523,341	581,402
1970	53,568		12,855	574	560,976	627,973
1971	43,190		1,870	459	529,420	574,939
1972	50,591		26,081	45	550,521	627,238
1973	35,356		28,795	156	591,600	655,907
1974	51,241	17,473	12,083	153	549,633	630,583
1975	33,540	20,750	52	980	413,054	468,376
1976	41,714	15,000	1,011	1,139	472,178	531,042
1977	60,251	0	18,574	354	420,700	499,879
1978	30,301	0	4,040	2,011	408,574	444,926
1979	32,382	0	2,629	815	459,500	495,326
1980	47,547	172,400	17,000	534	453,686	691,167
1981	53,687	122,000	702	362	387,504	564,255
1982	35,198	209,200	2,895	419	345,536	593,248
1983	35,511	303,600	10,754	376	251,927	602,168
1984	28,044	290,300	0	0	261,522	579,860
1985	12,864	286,300	871	271	265,654	565,960
1986	18,995	357,700	0	252	272,142	646,089
1987	25,800	455,100	0	185	352,231	833,316
1988	25,177	517,000	15	112	408,947	951,251
1989	17,728	651,900	3,600	295	461,860	1,135,383
1990	11,163	611,200	300	407	474,000	1,097,070
1991	7,026	599,100	7,253	675	326,499	940,553
1992	16,000	569,200	16,861	850	395,321	998,232
1993	5,000	537,600	1,200	1,061	327,050	871,911
1994	2,700	473,300	0	1,023	251,855	728,878
1995	8,400	545,100	583	296	199,726	754,105
1996	15,100	537,700	0	2,085	97,930	652,815
1997	14,100	620,600	0	506	124,634	759,840
1998	12,600	388,800	0	245	121,529	523,174
1999	12,800	378,900	41,140	340	153,585	586,765
2000	61,700	216,900	2,413	NA	119,481	400,494
2001	55,300	191,100	0	NA	44,411	290,811
2002	57,700	184,700	1,539	NA	32,096	276,035
2003	49,700	137,900	0	NA	48,122	235,722
2004	28,200	120,200	314	NA	49,197	197,911
2005	46,200	162,893	0	NA	46,645	255,738
2006	45,300	74,300	0	NA	40,069	159,669

NA = not available.

[a] Harvests from Alaska Mental Health Trust and University of Alaska lands omitted prior to 2000.

[b] Estimated from telephone surveys.

[c] Bureau of Indian Affairs data include the Metlakatla Reservation.

Source: USDA Forest Service, n.d.; Warren 1987, 1996, 2007.

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